

## ABSTRACT OF THE DISCLOSURE

A ferroelectric capacitor adapted for a non-volatile semiconductor memory comprises a base substrate with an insulating surface, such as a semiconductor substrate formed with semiconductor elements and having a top insulator film, a lower electrode formed on the insulating surface, an oxide ferroelectric layer formed on the lower electrode, a first oxide upper electrode formed on and in contact with the upper surface of the oxide ferroelectric layer, and a second oxide upper electrode formed on the first oxide upper electrode, wherein one of the first and second oxide upper electrodes comprises SRO that contains at least 0.1at% additive and the other of the first and second oxide upper electrodes comprises  $\text{IrO}_x$ . A non-volatile semiconductor memory or ferroelectric capacitor, having a PZT ferroelectric layer, excellent in characteristics, and capable of being manufactured efficiently, is provided.